

REMARKS

I. Introduction

In response to the pending Office Action, Applicants have cancelled claim 4 and amended claims 1 and 13 to further clarify the intended subject matter of the invention. Claims 5 and 6 have been amended to correct their dependency. Support for the amendments to claims 1 and 13 can be found, for example, on page 4, lines 20-22, page 11, lines 23-25 and page 18, lines 13-18. No new matter has been added.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art.

II. The Rejection Of Claims 1-10 And 13-14 Under 35 U.S.C. § 102

The Examiner has rejected, under 35 U.S.C. § 102(b), claims 1 and 8 as being anticipated by Hwu et al. (U.S. 6,259,713); claims 1, 7, 9 and 10 as being anticipated by Smith et al. (U.S. 5,824,186); claims 1-7 and 9 as being anticipated by Song et al. (U.S. 6,347,103) and claims 13-14 as being anticipated by Schatz (U.S. 6,780,696). Applicants respectfully submit that Hwu, Smith, Song and Schatz all fail to anticipate the pending claims for at least the following reasons.

With regard to the present invention, claim 1 recites in-part, a semiconductor laser device comprising: a substrate having a plurality of recessed portions in its principal surface, and a plurality of rectangular semiconductor laser chips each disposed in one of the recessed portions, wherein...a notch, through which a laser-emitting portion of an associated one of the semiconductor laser chips is exposed, is formed in the substrate to face the laser-emitting portion, the laser-emitting portion is formed on the facet in a longitudinal direction of each of the

semiconductor laser chips, and the laser beam passing through the laser-emitting portion is emitted in a same direction as the longitudinal direction of each of the semiconductor laser chips.

In contrast to the present invention, at a minimum, Hwu fails to disclose a notch, through which a laser-emitting portion of an associated one of the semiconductor laser chips is exposed, formed in the substrate to face the laser-emitting portion. Hwu merely discloses the elongated reflector 20 which corresponds to the recessed portion of the present invention (see, Fig. 4). Furthermore, Hwu fails to disclose that the laser beam (collimated rays 28) passing through the laser-emitting portion is emitted in a same direction as the longitudinal direction of each of the semiconductor laser chips 22 (see, Fig. 1A). As shown, Hwu discloses that the laser beams are emitted in a direction perpendicular to the longitudinal direction of the semiconductor laser chips 22.

Smith fails to disclose that the respective laser beams from the laser blocks 19 are emitted in the same direction as the longitudinal direction of the semiconductor laser chips 19 (see, Figs. 9, 10 and 11). In contrast, Smith discloses that the beams are emitted in a direction perpendicular to the longitudinal direction of the semiconductor laser chips 19. Furthermore, as seen from Fig. 12, Smith fails to teach or suggest a plurality of rectangular semiconductor laser chips 19.

Song fails to disclose that the laser beams are emitted in the same direction as the longitudinal direction of each of the semiconductor laser chips 23, 24. In contrast, Song merely discloses that the respective laser beams emitted from the laser diodes 23, 24 are reflected on the vertical mirror surface 27 (see Fig. 2C). Thus, the beams of Song are emitted in a direction

perpendicular to the longitudinal direction of the semiconductor laser diodes 23 and 24 due to the reflection of the vertical mirror surface 27.

Therefore, in view of the foregoing, it is respectfully submitted that neither Hwu, Smith nor Song disclose or suggest each and every claim element of the present invention and accordingly, the § 102(b) rejection of claim 1 should be held invalid.

Claim 13 recites in-part, a semiconductor laser device comprising: a substrate having a plurality of recessed portions in its principal surface, and a plurality of rectangular semiconductor laser chips each disposed in one of the recessed portions, wherein,...a notch, through which a laser-emitting portion of an associated one of the semiconductor laser chips is exposed, is formed in the substrate to face the laser-emitting portion, the laser-emitting portion is formed on the facet in a longitudinal direction of each of the semiconductor laser chips, and the laser beam passing through the laser-emitting portion is emitted in a same direction as the longitudinal direction of each of the semiconductor laser chips.

In contrast to the present invention, Schatz fails to disclose any notch formed in the substrate to face the laser-emitting portion. Referring to any of Figs. 3-13, there is no notch formed in the substrate to face the laser-emitting portion. Furthermore, Schatz fails to disclose or suggest that the respective laser beam passing through the laser-emitting portion is emitted in a same direction as the longitudinal direction of each of the semiconductor laser chips. While Schatz does disclose that the device may be used as a laser (col. 13, line 50), the reference discloses that the laser-emitting portion is emitted in a direction perpendicular the longitudinal direction of each of the semiconductor laser chips.

Therefore, as Schatz fails to disclose or suggest each and every element of the present invention, it is respectfully submitted that the § 102(b) rejection of claim 13 is invalid.

As anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference, *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983), and at a minimum, Hwu, Smith, Song and Schatz do not disclose or suggest the claim elements noted above, it is clear that Hwu, Smith, Song and Schatz do not anticipate either of claims 1 and 13, or any claim dependent thereon.

IV. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 13 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

V. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.


To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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